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NOTES ON GEOGRAPHIC DISTRIBUTION

Range extension of *Tympanoctomys barrerae* (Lawrence, 1941) (Rodentia: Octodontidae) in Patagonia and southernmost record

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ABSTRACT: We report the southernmost record for the octodontid rodent *T. barrerae*, which is also the second recording locality for this species in Patagonia. The new locality is placed in S Neuquén province, extending the known range of the species about 150 km SW from the nearest previous record. Although *T. barrerae* is considered a highly specialized rodent of salar flats in Monte desert, the record reported here came from an arbustive rocky environment belonging to the Monte-Patagonia ecotone.

The Red Vizcacha Rat, *Tympanoctomys barrerae* (Lawrence, 1941), is endemic to the arid regions of central and western Argentina. This octodontid is a medium-sized rat (head and body = 128.92 mm; tail length = 145.15) and shows several adaptive traits to living in the desert, such as, hypertrophied bullae, specialized diet on halophytic vegetation and the ability to concentrate urine (Ojeda *et al.* 1996; Díaz *et al.* 2000). Its known geographic range is patchy and restricted to salt basins and sand dunes (Díaz *et al.* 2000). However, this species is -among living octodontids- the one with the greatest distributional range, covering about from 30º to 43º30' S (Gallardo *et al.* 2009). *Tympanoctomys barrerae* was recorded in 12 isolated localities mostly within the Monte desert biome in Argentina (Ojeda *et al.* 1996; Ojeda *et al.* 2007; Gallardo *et al.* 2009; see below). In this work we report the second recording locality for *T. barrerae* in the Argentinean Patagonia, which is also the southernmost record for the species.

The material reported here, cranial remains belonging to a single individual, was found in an owl pellet sample collected on February 2012 at Puente Picún Leufú (39°12'37.5" S, 70°3'32.9" W, 807 m), about 35 km S Zapala, Neuquén province, Argentina (Figure 1). The collection site is a rocky area close to the river Picún Leufú dominated by the shrubs *Colliguaja integerrima* and *Pappostipa* sp. The studied material was identified to the finest taxonomic level using specific literature (De Santis *et al.* 1991; Pearson 1995; Díaz *et al.* 2010); and the voucher material was housed at the Colección de Material de Egagrópilas y Afines "Elio Massoia" del Centro Nacional Patagónico (CNP-E; Puerto Madryn, Chubut, Argentina) under the reference number CNP-E 663. An additional 7 small mammal species were found together with *T. barrerae* on a total sample of 55 individuals; including the caviomorphs *Ctenomys* sp. (9.1%) and *Microcavia australis* (14.55%), the cricetids *Eligmodontia* sp. (56.36%), *Graomys griseoflavus* (1.82%), *Phyllotis* sp. (5.45%), and *Reithrodon auritus* (5.45%), and the marsupial *Thylamys pallidior* (5.45%).

The studied material of *T. barrerae* is an incomplete skull and mandible, assignable to one adult individual (Fig. 2) and can be referred to this species based on the following combination of characters: 1) frontals divergent backwards, 2) molariform theeth "8"-shaped, 3) nasals posteriorly rounded, 4) mandible short and robust 5) masseteric ridges sharply demarcated 6) coronoid short and turned backward 7) lower m3 triangular-shaped (De Santis *et al.* 1991; Diaz *et al.* 2000; Teta *et al.* In press; Figure 2).

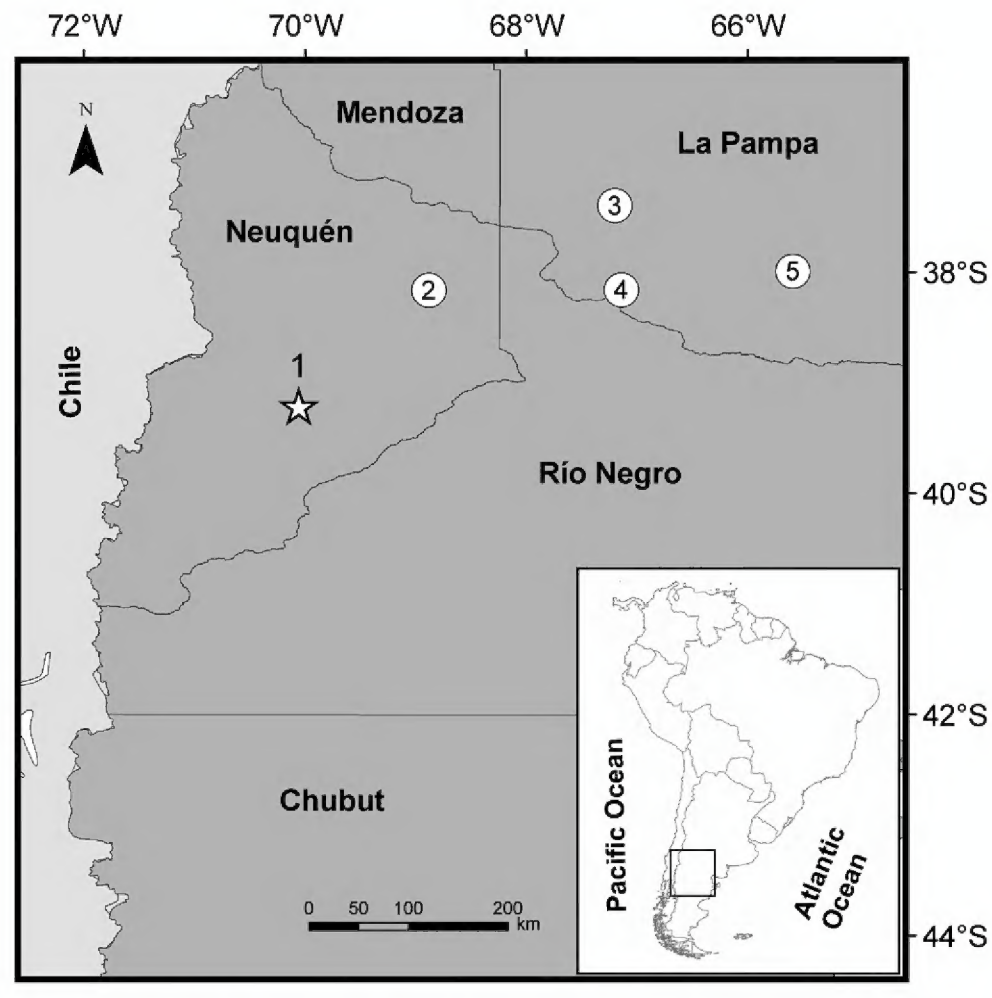

FIGURE 1. Southern recording localities for *Tympanoctomys barrerae* (after Ojeda et al. 2007); the new record reported here is highlighted with a star. 1) Puente Picún Leufú (new record), 2) Salar de Añelo, 3) Gran Salitral, 4) Casa de Piedra, 5) Lihue Calel. Province and neighbor country names are shown as well.

Figure 2. Remains of *Tympanoctomys barrerae* found at Puente Picun Leufú (Neuquén province, Argentina; CNP-E 663). From top to bottom, anterior fragment of skull in dorsal and ventral view, mandible in labial and occlusal view.

Tympanoctomys barrerae was previously cited for two localities in Patagonia: Añelo salt flat in Neuquén province (with two collection sites, referred as "Añelo Tero" and "Añelo Castillo" according to Gallardo *et al.* 2013; Ojeda *et al.* 2007) and Estancia La Porfía in Chubut province (Gallardo *et al.* 2009, 2013). However, there is a strong evidence supporting that the population of Chubut constitutes a new undescribed species (Gallardo *et al.* 2013; Teta *et al.* In press). Therefore, the record reported here is the second for *T. barrerae* in Patagonia and represents an extension of its range of about 150 km SW from Añelo. In addition, it is the southernmost locality for the species.

Tympanoctomys barrerae is a desert dweller associated to the periphery of salt flats and basins with a marked preference for halophytic chenopods endemic to the Monte desert (Gallardo *et al.* 2013). However, the record reported here, contrasting with the previously known, came from a shruby rocky environment belonging to the Monte-Patagonia ecotone.

The importance of the owl pellet analysis in terms of detectability and advance on the knowledge of species distribution is remarkable (Formoso *et al.* 2010, 2011). This methodology brings the possibility to access information in a quick and effective way contributing to the best understanding of the distribution on poorly known species.

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